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[54] **PRESSURE BALANCED FAST OPENING
FIRING SYSTEM FOR A STORED ENERGY
LAUNCHING SYSTEM**

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[58] **Field of Search** 89/1.809, 1.81;
114/238, 319

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[57] **ABSTRACT**

A system for launching a projectile includes a source of stored energy such as a pressurized fluid, a projectile within a launch barrel which communicates with the source of pressurized fluid, a fluid flow path between the two having at least one flow port, an object for blocking the at least one flow port and a valve for moving the blocking object and thereby allowing the pressurized fluid to enter the launch barrel and initiate launch of the projectile. The valve for moving the blocking object communicates directly with the energy storage device of the launch system and is used to move the blocking means by introducing fluid against a rear face thereof. In one embodiment of the present invention, the blocking object may be a disposable poppet. In an alternative embodiment, it may be the projectile itself. The launch system of the present invention has the advantages of being relatively simple, quiet and highly reliable. It also has the advantage of very rapidly opening a flow port substantially equal in size to the projectile to be launched.

13 Claims, 1 Drawing Sheet

